SAFETY DATA SHEET

Indoxacarb / Permethrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2024/07/09
6.1	2025/04/14	27886-00026	Date of first issue: 2014/11/04

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Indoxacarb / Permethrin Formulation

Manufacturer or supplier's details

Company : MSD

Address : 126 E. Lincoln Avenue
Rahway, New Jersey U.S.A. 07065

Telephone : +1-908-740-4000

Emergency telephone number : +1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product
Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin sensitisation : Category 1

Specific target organ toxicity - single exposure : Category 3

Specific target organ toxicity - repeated exposure : Category 1 (Blood, Nervous system, Heart)

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :

H226 Flammable liquid and vapour.
H302 + H332 Harmful if swallowed or if inhaled.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
H372 Causes damage to organs (Blood, Nervous system, Heart) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P314 Get medical advice/ attention if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours).
Vapours may form explosive mixture with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Permethrin (ISO)	52645-53-1	>= 30 -< 60
1-Methoxy-2-propanol	107-98-2	>= 30 -< 60
Indoxacarb (ISO)	173584-44-6	>= 10 -< 25

4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : This product contains a pyrethroid.
Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.
Harmful if swallowed or if inhaled.
May cause an allergic skin reaction.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Chlorine compounds
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can

be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	If sufficient ventilation is unavailable, use with local exhaust ventilation. Use explosion-proof electrical, ventilating and lighting equipment.
Advice on safe handling	:	Do not get on skin or clothing. Do not breathe mist or vapours. Do not swallow. Avoid contact with eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Non-sparking tools should be used. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage	:	Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.
Materials to avoid	:	Do not store with the following product types: Self-reactive substances and mixtures Organic peroxides Oxidizing agents Flammable gases Pyrophoric liquids Pyrophoric solids Self-heating substances and mixtures Poisonous gases Explosives

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Permethrin (ISO)	52645-53-1	TWA	80 µg/m3 (OEB 3)	Internal
		Wipe limit	800 µg/100 cm²	Internal
1-Methoxy-2-propanol	107-98-2	NAB	100 ppm	ID OEL
		PSD	150 ppm	ID OEL
		TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
Indoxacarb (ISO)	173584-44-6	TWA	50 µg/m3 (OEB 3)	Internal
	Further information: DSEN			
		Wipe limit	100 µg/100 cm2	Internal

Engineering measures : Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.
Use explosion-proof electrical, ventilating and lighting equipment.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapour type

Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Take note that the product is flammable, which may impact the selection of hand protection. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
Safety glasses

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.
Skin contact must be avoided by using impervious protective

Hygiene measures	:	clothing (gloves, aprons, boots, etc). If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	Clear white to yellow.
Odour	:	ether-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	33.5 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.096
Density	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-	:	Not applicable

octanol/water		
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle characteristics		
Particle size	:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Flammable liquid and vapour. Vapours may form explosive mixture with air. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion Eye contact

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 609.38 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 4.48 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method

Components:

Permethrin (ISO):

Acute oral toxicity	:	LD50 (Rat): 480 - 554 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 2.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg

1-Methoxy-2-propanol:

Acute oral toxicity	:	LD50 (Rat): 4,016 mg/kg
Acute inhalation toxicity	:	LC50 (Mouse): < 22.2 mg/l Exposure time: 6 h Test atmosphere: vapour
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Indoxacarb (ISO):

Acute oral toxicity	:	LD50 (Rat, female): 179 mg/kg Symptoms: Loss of reflexes, Breathing difficulties, Tremors LD50 (Rat, male): 843 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, female): 4.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:

Permethrin (ISO):

Species	:	Rabbit
Result	:	No skin irritation

1-Methoxy-2-propanol:

Species	:	Rabbit
Result	:	No skin irritation

Indoxacarb (ISO):

Result	:	No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Permethrin (ISO):

Species	:	Rabbit
Result	:	No eye irritation

1-Methoxy-2-propanol:

Species	:	Rabbit
Result	:	No eye irritation

Indoxacarb (ISO):

Result	:	No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Permethrin (ISO):

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	positive
Assessment	:	Probability or evidence of skin sensitisation in humans

1-Methoxy-2-propanol:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative

Indoxacarb (ISO):

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	positive

Germ cell mutagenicity

Not classified based on available information.

Components:

Permethrin (ISO):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: positive

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse
Result: negative

Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Result: negative

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Intraperitoneal injection
Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse
Application Route: Ingestion
Result: positive

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

1-Methoxy-2-propanol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: equivocal

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Method: OECD Test Guideline 482
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Indoxacarb (ISO):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosomal aberration
Test system: mammalian cells
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Permethrin (ISO):

Species : Rat
Result : negative

Species : Mouse
Result : negative

1-Methoxy-2-propanol:

Species	:	Rat
Application Route	:	inhalation (vapour)
Exposure time	:	2 Years
Method	:	OECD Test Guideline 453
Result	:	negative

Indoxacarb (ISO):

Species	:	Rat, male and female
Application Route	:	oral (feed)
Exposure time	:	2 Years
Frequency of Treatment	:	daily
Result	:	negative

Species	:	Mouse, male and female
Application Route	:	oral (feed)
Exposure time	:	18 Months
Frequency of Treatment	:	daily
Result	:	negative

Reproductive toxicity

Not classified based on available information.

Components:

Permethrin (ISO):

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative
Effects on foetal development	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Result: negative

1-Methoxy-2-propanol:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 416 Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative

Indoxacarb (ISO):

Effects on fertility	:	Test Type: Two-generation study Species: Rat Application Route: Oral General Toxicity F1: NOAEL: 1.3 mg/kg body weight Result: negative Test Type: Two-generation study Species: Rat Application Route: Oral General Toxicity - Parent: NOAEL: 1.3 mg/kg body weight General Toxicity F1: NOAEL: > 6.7 mg/kg body weight Result: Embryotoxic effects and adverse effects on the off-spring were detected.
Effects on foetal development	:	Test Type: Development Species: Rat Developmental Toxicity: NOAEL: 2 mg/kg body weight Result: No teratogenic effects Test Type: Development Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 500 mg/kg body weight Result: No adverse effects Test Type: Development Species: Rat Application Route: Oral Developmental Toxicity: NOAEL: 10 mg/kg body weight Test Type: Development Species: Rat Application Route: Oral Developmental Toxicity: LOAEL: 100 mg/kg body weight

STOT - single exposure

May cause drowsiness or dizziness.

Components:

1-Methoxy-2-propanol:

Assessment	:	May cause drowsiness or dizziness.

STOT - repeated exposure

Causes damage to organs (Blood, Nervous system, Heart) through prolonged or repeated exposure.

Components:

Indoxacarb (ISO):

Target Organs	:	Blood, Nervous system, Heart
Assessment	:	Causes damage to organs through prolonged or repeated

exposure.

Repeated dose toxicity

Components:

Permethrin (ISO):

Species	:	Rat
NOAEL	:	0.2201 mg/l
Application Route	:	Inhalation
Exposure time	:	90 Days

Species	:	Rat
NOAEL	:	175 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

1-Methoxy-2-propanol:

Species	:	Rat
NOAEL	:	919 mg/kg
Application Route	:	Ingestion
Exposure time	:	35 Days

Species	:	Rat
NOAEL	:	1.1 mg/l
Application Route	:	inhalation (vapour)
Exposure time	:	2 yr
Method	:	OECD Test Guideline 453

Species	:	Rabbit
NOAEL	:	1,838 mg/kg
Application Route	:	Skin contact
Exposure time	:	90 Days

Indoxacarb (ISO):

Species	:	Rat, male and female
NOAEL	:	1.7 mg/kg
LOAEL	:	4.1 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Target Organs	:	Blood, Central nervous system

Species	:	Rat, male and female
NOAEL	:	50 mg/kg
LOAEL	:	500 mg/kg
Application Route	:	Dermal
Exposure time	:	28 d
Target Organs	:	Blood

Species	:	Rat
NOAEL	:	4.6 mg/m3

LOAEL	:	23 mg/m3
Application Route	:	Inhalation
Exposure time	:	4 Weeks
Target Organs	:	Blood, Lungs

Species	:	Rat, male and female
NOAEL	:	1 mg/kg
LOAEL	:	2 mg/kg
Application Route	:	Oral
Exposure time	:	1 yr
Target Organs	:	Blood

Species	:	Dog
NOAEL	:	1 mg/kg
LOAEL	:	2 mg/kg
Application Route	:	Oral
Exposure time	:	1 yr
Target Organs	:	Blood

Species	:	Mouse
NOAEL	:	3 mg/kg
LOAEL	:	14 mg/kg
Application Route	:	oral (feed)
Exposure time	:	18 Months
Target Organs	:	Nervous system, Heart

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Components:

Indoxacarb (ISO):

General Information	:	No human information is available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Permethrin (ISO):

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.00079 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.0001 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.13 mg/l Exposure time: 72 h

		EC10 (Pseudokirchneriella subcapitata (green algae)): 0.0023 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10,000
Toxicity to fish (Chronic toxicity)	:	NOEC (Danio rerio (zebra fish)): 0.00041 mg/l Exposure time: 35 d Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.0047 µg/l Exposure time: 21 d Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	:	10,000
Toxicity to microorganisms	:	EC50: > 1,000 mg/l Exposure time: 3 h

1-Methoxy-2-propanol:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 6,812 mg/l Exposure time: 96 h Method: DIN 38412
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 23,300 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Skeletonema costatum (marine diatom)): 6,745 mg/l Exposure time: 72 h Method: ISO 10253
Toxicity to microorganisms	:	IC50: > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Indoxacarb (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.65 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.9 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.6 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 0.6 mg/l

Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.46 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.09 mg/l
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 1

Persistence and degradability

Components:

Permethrin (ISO):

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301F

1-Methoxy-2-propanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 96 %
Exposure time: 28 d
Method: OECD Test Guideline 301E

Bioaccumulative potential

Components:

Permethrin (ISO):

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 570

Partition coefficient: n-octanol/water : log Pow: 4.67

1-Methoxy-2-propanol:

Partition coefficient: n-octanol/water : log Pow: < 1

Indoxacarb (ISO):

Partition coefficient: n-octanol/water : log Pow: 4.65

Mobility in soil

Components:

Indoxacarb (ISO):

Distribution among environ- : log Koc: 3.9

mental compartments

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Do not dispose of waste into sewer. Dispose of in accordance with local regulations.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3092
Proper shipping name	:	1-METHOXY-2-PROPANOL SOLUTION
Class	:	3
Packing group	:	III
Labels	:	3
Environmentally hazardous	:	no

IATA-DGR

UN/ID No.	:	UN 3092
Proper shipping name	:	1-Methoxy-2-propanol solution
Class	:	3
Packing group	:	III
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355

IMDG-Code

UN number	:	UN 3092
Proper shipping name	:	1-METHOXY-2-PROPANOL SOLUTION (Permethrin (ISO), Indoxacarb (ISO))
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-D
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Minister of Industry Regulation No. 23/M-IND/PER/4/2013 concerning the Revision of Minister of Industry Regulation No. 87/M-IND/PER/9/2009 concerning Globally Harmonized System of Classification and Labelling of Chemicals.

Regulation of the Minister of Health No. 472 of 1996 on the Safeguarding of Substances Hazardous to Health

Hazardous substances that must be registered	:	Not applicable

Government Regulation No. 74 of 2001 on the Management of Hazardous and Toxic Substances

Hazardous substances approved for use	:	Not applicable
Prohibited substances	:	Not applicable
Restricted substances	:	Not applicable

Regulation of the Ministry of Trade No. 7 of 2022 on Distribution and Control of Hazardous Materials

Type of hazardous materials subject to distribution and control, Annex I	:	Not applicable
Type of hazardous materials subject to distribution and control, Annex II	:	Not applicable

The components of this product are reported in the following inventories:

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

16. OTHER INFORMATION

Revision Date	:	2025/04/14

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Date format	:	yyyy/mm/dd

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ID OEL	:	Indonesia. Occupational Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ID OEL / NAB	:	Long term exposure limit
ID OEL / PSD	:	Short term exposure limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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